UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XB111NM

Site Name: Sandy Slopes

Precipitation or Climate Zone: 10-16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on mesas, plateaus, and valley side slopes. Slopes are level to gently sloping on undulating upland plains. Slopes are generally less than 10 percent. Elevations range from 6,400 feet to 7,200 feet.

Land Form:

1. Valley side
2. Mesa, escarpment
3. Plateaus, ridge

Aspect:

1. Not significant
2.
3.

	Minimum	Maximum
Elevation (feet)	6400	7200
Slope (percent)	0	10
Water Table Depth (inches)	--	--

Flooding:	Minimum	Maximum
Frequency	--	--
Duration	--	--

Ponding:	Minimum	Maximum
Depth (inches)	--	--
Frequency	--	--
Duration	--	--

Runoff Class:

Medium

CLIMATIC FEATURES

Narrative:

The area has an arid to semi-arid continental climate with distinct seasonal temperature and moisture variations. There are large annual and diurnal temperature changes.

Mean annual precipitation varies from 9 to 14 inches. Deviations of four inches or more from the mean annual are common. An excess of 60 percent of the moisture occurs during the native plant growth period, April through September. May and June are dry and usually receive approximately one inch of moisture. July and August usually receive 3 to 4 inches, which promotes growth of warm season species. Late fall and winter moisture is conducive to the production of cool-season plants, which begin growth in March and end with plant maturity and seed dissemination when the moisture deficiency and warmer temperatures occur usually in June. The Gulf of Mexico is the principal source of moisture for summer precipitation, which is characterized by relatively short thundershowers. Occasionally there are high intensity showers which may cause flash flooding. Winter moisture occurs as snow usually in excess of 15 inches annually. Temperature varies from a mean monthly of 70 degrees F in July to 27 degree F in January; the maximum is 99 degree F, and the minimum is -23 degree. Temperatures are conducive for native grass and forb growth from March through September.

	Minimum	Maximum
Frost-free period (days):	51	171
Freeze-free period (days):	130	252
Mean annual precipitation (inches):	10	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

Climate Stations:

					Period		
Station ID	290640	Location	Augustine 2E	From:	05/01/26	To:	07/31/00
Station ID	296812	Location	Pietown 19NE	From:	09/01/88	To:	07/31/00
Station ID	297180	Location	Quemado	From:	08/01/15	To:	07/31/00
Station ID		Location		From:	Period	To:	
Station ID		Location		From:	Period	To:	
Station ID		Location		From:		To:	

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils on this site are deep and well drained. The surface layer is a sandy loam, sandy clay loam, or fine sandy loam. The subsoil and substratum or underlying layer is usually a sandy loam, fine sandy loam, or sandy clay loam. They are formed in aeolian and alluvial material derived from sandstone and shale. Water intake is rapid to moderately rapid. Available water-holding capacity ranges from 4.8 to 6.8 inches in a 60-inch profile.

Some soil taxonomic units are: Penistaja-Valant complex

Parent Material Kind: Eolian sands
Parent Material Origin: Sandstone- unspecified

Surface Texture:

1. sandy loam
2. sandy clay loam
3. fine sandy loam

Surface Texture Modifier:

1. --
2. --
3. --

Subsurface Texture Group: Sandy loam, fine sandy loam or sandy clay loam
Surface Fragments <=3" (% Volume): --
Surface Fragments >3" (% Volume): --
Subsurface Fragments <=3" (%Volume): 8%
Subsurface Fragments >=3" (%Volume): --

	Minimum	Maximum
Drainage Class:	well	
Permeability Class:	Moderately rapid	
Depth (inches):	0	65
Electrical Conductivity (mmhos/cm):	0.00	2.00
Sodium Absorption Ratio:	0.00	0.00
Soil Reaction (1:1 Water):	6.6	7.8
Soil Reaction (0.1M CaCl2):	--	--
Available Water Capacity (inches):	4	4
Calcium Carbonate Equivalent (percent):	--	--

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

Plant Community Narrative:
This plant community is characterized by a grass-shrub mixture with a few scattered pinyon pine and juniper trees. Annual forbs occur in relative abundance during spring and summer months in years of above-average growing conditions. When the potential plant community deteriorates, there is a marked increase in the abundance of shrubs, half-shrubs, and trees. In drastic deterioration, the site may be dominated by big sagebrush, pinyon pine, juniper, forbs and cacti with a small amount of desirable grasses.

Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	20
Bare ground	55
Surface gravel	
Surface cobble and stone	--
Litter (percent)	15
Litter (average depth in cm.)	2
Surface Gravel (% cover)	

Plant Community Annual Production (by plant type):

	Annual Production (lbs/ac)		
Plant Type	Low	RV	High
Grass/Grasslike	195	390	585
Forb	45	90	135
Tree/Shrub/Vine	75	150	585
Lichen	--	--	--
Moss	--	--	--
Microbiotic Crusts	--	--	--
Totals	315	630	1305

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	SPCR	Sand dropseed	30	60
	SPFL2	Mesa dropseed		
	SPCO4	Spike dropseed		
2	PASM	Western wheatgrass	60	90
3	BOGR2	Blue grama	60	90
4	ACHY	Indian ricegrass	60	90
5	HECO26	Needle-and-Thread	30	60
	HENE5	NM Feathergrass		
6	SPAI	Alkali sacaton	30	60
7	SCSC	Little bluestem	18	30
8	PLJA	Galleta	30	60
9	ELEL5	Bottlebrush squirreltail	30	60
10	ARIST	Threeawn spp.	18	30

Plant Type - Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	PIED	Pinyon Pine	18	30
	JUNIP	Juniper		
12	ATCA2	Fourwing saltbush	30	60
	KRLA2	Winterfat		
	ARTR2	Big sagebrush	30	60
	ARBI3	Bigelow sagebrush		
	ARFR4	Fringed sagewort		
	ARFI2	Sand sagebrush		

Plant Type – Forb

13	DECO3	Larkspur	30	60
	SOAM	Purple nightshade		
	Ipomopsis aggregate	Scarlet gilia		
	TRPO	Salsify		
	LUAL5	Lupine		
	OXLA3	Locoweed		
	HYRI	Pingue		
	RUCR	Curley dock		
		Indian paintbrush		
	CAGU	Mariposa lilly		
	ABAN	Sand verbena		

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Additional plants which may occur on this site in varying amounts, dependent on current growing conditions, are: wild pea, yellow bell, evening primrose, wooly Indianwheat, yucca, purslane, tumble windmillgrass, ring muhly, annual bromes, Russian thistle, sunflowers, threadleaf groundsel, Rocky Mountain beeplant, penstemon, nodding onion, scarlet globemallow, goldenweed, fiddleneck, lambsquarters, rubber rabbitbrush, spineless horsebrush, and broom snakeweed.

Plant Growth Curves
Growth Curve ID NM 0302
Growth Curve Name: HCPC
Growth Curve Description: WP-2 Sandy Slope HCPC mixed warm/cool season plant community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	10	10	10	20	25	15	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:
This range site provides habitats which support a resident animal community that is characterized by mule deer, pronghorn antelope, gray fox, desert cottontail, white-throated woodrat, Northern grasshopper mouse, raven, scaled quail, brown towhee, lesser earless lizard and Great Basin gopher snake.

Hydrology Functions:
The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
	B

Approximate hydrologic curve number when the hydrologic cover is optimum: B Soils

Recreational Uses:

This site offers fair potential for hiking, horseback riding, and antelope hunting but low potential for developed recreational facilities.

Wood Products:

Limited production of wood products for fence posts and fire wood.

Other Products:

This site is well suited for grazing use by small and large herbivores. Mismanagement of this site will cause a decrease in palatable plants and an increase in the woody plants and non-palatable forbs. In drastic deterioration, this site may be dominated by big sagebrush, pinyon pine, juniper, forbs and cacti with a small amount of desirable grasses.

Other Information:	
Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month	
Similarity Index	Ac/AUM
100 - 76	5-9
75 – 51	6-11
50 – 26	8-18
25 – 0	18+

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Blue grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Indian ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little bluestem	Schizachyrum scoparium	EP	D	D	P	P	P	P	P	D	D	D	D	D
Alkali sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	D	D	D	D
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	P	P	P	D	D	D	D

Supporting Information

Associated Sites:

Site Name	Site ID	Site Narrative

Similar Sites:

Site Name	Site ID	Site Narrative

State Correlation:
This site has been correlated with the following states:

Inventory Data References:

Data Source	Number of Records	Sample Period	State	County

Type Locality:

Relationship to Other Established Classifications:

Other References:
Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus & Mesas Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley, Catron, Cibola, Socorro and Sandoval.

Characteristic Soils Are:	
Penistaja fine sandy loam	

Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	04/18/78	Don Sylvester	04/18/78

Site Description Revision:

Author	Date	Approval	Date
Brenda Simpson	8/20/02	George Chavez	12/16/02